UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,212	03/30/2004	Iyad Qumei	15619US02	4068

23446 7590 06/20/2007

MCANDREWS HELD & MALLOY, LTD
500 WEST MADISON STREET
SUITE 3400
CHICAGO, IL 60661

EXAMINER	
CHEN, SHIN HON	
ART UNIT	**PAPER NUMBER**
2131	

MAIL DATE	DELIVERY MODE
06/20/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/813,212	QUMEI, IYAD	
	Examiner	Art Unit	
	Shin-Hon Chen	2131	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 November 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *30 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *11/24/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-41 have been examined.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-9 and 12 are rejected under 35 U.S.C. 102(a) as being anticipated by Selkirk et al. U.S. Pub. No. 20030051160 (hereinafter Selkirk).

4. As per claim 1, Selkirk discloses an electronic device network for updating at least one of firmware and software in a plurality of electronic devices using at least one electronic device update, at least one of the firmware and software in the plurality of electronic devices and the at least one update being encrypted (Selkirk: [0009]), the network comprising: at least one update generator adapted to generate updates, the at least one update generator comprising an encrypting and decrypting engine (Selkirk: [0017]: updates are encrypted); at least one update store storing a plurality of electronic device updates (Selkirk: [0017]: update server); and at least one update delivery server adapted to dispense the plurality of electronic device updates (Selkirk: [0017]: server downloads update to firmware device).

5. As per claim 2, Selkirk discloses the network of claim 1. Selkirk further discloses wherein the at least one update delivery server comprises secure socket layer support providing authentication and data encryption/decryption (Selkirk: [0017]: updates being provided through SSL).

6. As per claim 3, Selkirk discloses the network of claim 1. Selkirk further discloses wherein each of the plurality of electronic devices are adapted to retrieve secure encrypted updates form the at least one update delivery server to update the at least one of firmware and software resident in the plurality of electronic devices, and wherein at least a portion of the at least one of firmware and software resident in the electronic devices is encrypted (Selkirk: [0017]: encrypted update is provided to electronic device).

7. As per claim 4, Selkirk discloses the network of claim 1. Selkirk further discloses wherein each of the plurality of electronic devices comprises: one of encrypting and decrypting components; and a client for downloading updates (Selkirk: [0017]: the firmware device supports cryptographic functions).

8. As per claim 5, Selkirk discloses the network of claim 1. Selkirk further discloses wherein each of the plurality of electronic devices comprise a security services component providing secure communication with the at least one update delivery server (Selkirk: [0017]).

9. As per claim 6, Selkirk discloses the network of claim 1. Selkirk further discloses wherein each of the plurality of electronic devices comprise an encrypted section, the encrypted section comprising at least one of an encrypted data section and an encrypted code section (Selkirk: [0017]).

10. As per claim 7, Selkirk discloses the network of claim 1. Selkirk further discloses wherein each of the plurality of electronic devices comprise an encrypted section, the encrypted section comprising at least one of an encrypted data section and an encrypted code section (Selkirk: [0008]: firmware comprises data and code).

11. As per claim 8, Selkirk discloses the network of claim 7. Selkirk further discloses wherein the update agent is adapted to employ at least one of encrypting and decrypting components to update at least one of firmware and software resident in the electronic devices, and wherein at least a portion of the at least one of firmware and software is encrypted and stored in one of an encrypted data section and an encrypted code section (Selkirk: [0008]: firmware contains data and code; [0017]: encrypted firmware).

12. As per claim 9, Selkirk discloses the network of claim 1. Selkirk further discloses wherein the update generator is adapted to process an old memory image and a new image of the at least one of firmware and software in the electronic devices, and wherein at least a portion of the at least one of firmware and software is encrypted (Selkirk: [0017]).

13. As per claim 12, Selkirk discloses the network of claim 1. Selkirk further discloses wherein the electronic devices comprise a plurality of mobile electronic devices, and wherein the plurality of mobile electronic devices comprise at least one of a mobile cellular phone handset, personal digital assistant, pager, a multimedia player, and a camera (Selkirk: [0021]: pda).

Claim Rejections - 35 USC § 103

14. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

15. Claims 10, 11 and 13-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Selkirk in view of Nachenberg U.S. Pat. No. 6230316 (hereinafter Nachenberg).

16. As per claim 10, Selkirk discloses the network of claim 1. Selkirk discloses firmware updates (Selkirk: [0017]). Selkirk does not explicitly disclose wherein the update generator is adapted to decipher one of encrypted data segments and encrypted code in both an old memory image and a new image to generate an update for updating at least one of firmware and software in the electronic devices. However, Nachenberg discloses generating an update file by performing binary difference between old file and new file (Nachenberg: column 5 lines 37-50). It would have been obvious to one having ordinary skill in the art to generate a firmware update by binary differencing the new and old image because binary difference is well known technique for update. Therefore, it would have been obvious to one having ordinary skill in the art at the

time of applicant's invention to combine the teachings of Nachenberg within the system of Selkirk because incremental update of a file provides efficient update process.

17. As per claim 11, Selkirk discloses the network of claim 1. Selkirk does not explicitly disclose wherein the update generator is adapted to employ deciphering techniques to extract one of ciphered code and enciphered data segments, process the one of enciphered code and enciphered data segments to generate an update comprising difference information, and cipher the one of code and data segments, and the difference information in at least one update. However, Nachenberg discloses generating an update file by performing binary difference between old file and new file (Nachenberg: column 5 lines 37-50). It would have been obvious to one having ordinary skill in the art to generate a firmware update by binary differencing the new and old image because binary difference is well known technique for update. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to combine the teachings of Nachenberg within the system of Selkirk because incremental update of a file provides efficient update process.

18. As per claim 13, Selkirk discloses a method of encrypting update information within a firmware image in electronic device, the method comprising: creating encrypted updates for an electronic device (Selkirk: [0017]: encrypt update); and encrypting firmware images by applying at least one of stream symmetric enciphering and block symmetric enciphering (Selkirk: [0025] and [0030]: communication utilizing SSL in streaming network using block ciphers). Selkirk does not explicitly disclose the update file is binary differencing information. However,

Nachenberg discloses generating an update file by performing binary difference between old file and new file (Nachenberg: column 5 lines 37-50). It would have been obvious to one having ordinary skill in the art to generate a firmware update by binary differencing the new and old image because binary difference is well known technique for update. Therefore, it would have been obvious to one having ordinary skill in the art at the time of applicant's invention to combine the teachings of Nachenberg within the system of Selkirk because incremental update of a file provides efficient update process.

19. As per claim 14-19, Selkirk as modified discloses the method of claim 13. Selkirk as modified further discloses streaming block cipher technique used to update the firmware file as well obvious variation of partial encryption using block ciphers (Selkirk: [0025], [0030] and [0034]).

20. As per claim 20, Selkirk as modified discloses the method of claim 113. Selkirk as modified further discloses wherein an enciphering algorithm and an enciphering key are stored in the electronic device (Selkirk: [0017]: the firmware device can decrypt the encrypted transmission).

21. As per claim 21, Selkirk discloses the network of claim 13. Selkirk further discloses wherein the electronic devices comprise a plurality of mobile electronic devices, and wherein the plurality of mobile electronic devices comprise at least one of a mobile cellular phone handset, personal digital assistant, pager, a multimedia player, and a camera (Selkirk: [0021]: pda).

22. As per claims 22-41, claims 22-41 encompass the same scope and obvious variation of claims 1-21. Therefore, claims 22-41 are rejected based on the same reasons set forth above in rejecting claims 1-21.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wagner et al. U.S. Pat. No. 7095858 discloses system for securely upgrading firmware.

Kitani et al. U.S. Pub. No. 200400066703 discloses information processing apparatus for processing update for firmware.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shin-Hon Chen whose telephone number is (571) 272-3789. The examiner can normally be reached on Monday through Friday 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ayaz Sheikh can be reached on (571) 272-3795. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Shin-Hon Chen
Examiner
Art Unit 2131

SC

AYAZ SHEIKH
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100